

REMARKS

In response to the Office Action dated September 29, 2004, please consider the following amendments and remarks made in a good faith attempt to move prosecution of this application forward to a proper allowance of the claims.

Please note that any and all fees associated with this response, including any applicable extension fees under 37 C.F.R. 1.136, and any fees for newly presented claims, may be charged to the deposit account of the undersigned, Account No. **50-0894**.

Applicant here requests such extensions under 37 C.F.R. 1.136 as may be necessary to render this response timely.

Claim Objections

Claims 14-16, 18-19, 21, and 23 currently stand objected to as Examiner states that it is unclear what Applicant attempts to encompass with the limitations "or other structure," "or otherwise designed or configured," "or other means" recited in the claims.

Please note that claims 14-16, 18-19, 21, and 23 have been appropriately amended. Specifically the limitations "or other structure" and "designed or configured" have been amended to remove any ambiguity. Applicant cannot find "or other means" in any of the above mentioned claims.

Claim Rejections; 35 U.S.C. 102(b)

Claims 12, 14-16, 18, and 23 currently stand rejected under 35 U.S.C. 102(b) in view of U.S. Pat. No. 5,675,855 issued to Culp ("Culp"). Applicant respectfully submits that

the above rejection is improper as Applicant cannot find, in Culp, "a support structure... configured to reduce local stresses on a supported body, reduce cross contamination between a patient and a patient surroundings, and reduce the incidence of dust mites into said support system" as presently claimed. Moreover, Applicant cannot find, in Culp, a "support structure, configured to minimize localized stress concentrations caused by the weight of the body thereon." It is important to note that Culp wholly fails to disclose a support structure having anything but *vertically* aligned apertures. "Anticipation requires the presence in a single prior reference disclosure of each and every element of the claimed invention, arranged as in the claim." *Lindemann Maschinenfabrik GmbH v. American Hoist & Derrick Co.*, 730 F.2d 1452, 221 USPQ 193 (Fed. Cir. 1983)). (emphasis added). Moreover, for a 102(b) rejection to be appropriate, "the identical invention must be shown in as complete detail as is contained in the...claim." *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236; 9 USPQ2d 1913, 1920 (Fed. Cir. 1989); MPEP 2131. Nevertheless, Applicant has amended claims 12, 14, 16, 18, and 23 to *further* distinguish the present invention from the Culp document. Specifically, these claims now recite *tapered* vacant regions contained within the support structure.

Applicant's invention, as presently claimed, includes the limitation of a support structure configured to minimize localized stress concentrations caused by the weight of a body thereon. This element, however, is not disclosed in the Culp document. Instead, Culp discloses only a "grid array of apertures 24." *Culp* col. 1 line 35. These apertures have *vertical* side walls extending between the top and bottom surface of foam panel 22. See *Culp* col. 1 line 35; figure 3; figure 4. The vertical side walls of apertures 24 and the

horizontal surface of top sheet panel 14 form and "edge" that does nothing to alleviate localized stresses. *Id.* figure 3; figure 4.

This is the very thing that Applicant's invention, as claimed, attempts to eliminate. Applicant specifically states that such vertical walls are extremely undesirable; "If the sides of the opening are vertical, whether a cylindrical, elliptical, or other shape, the body will see a higher stress concentration near the opening." See *Spec.* pg 15, lines 3-4.

Rather than having an edge formed by vertical walls, Applicant claims only a "support structure configured to minimize localized stress concentrations...." As such, a key element of Applicant's claimed invention is that the apertures of the support structure be configured to reduce localized stress (i.e., by not having apertures with vertical walls). This is primarily achieved by the elimination of stress points such as an edge formed about the apertures. "If the edge of the support structure impinges on any portion of the body, such as the heels or the back of the knees when seated, then in order to avoid stress concentration, that edge should be sloping inward from top to bottom." See *Spec.*, pg 16, lines 20-22.

Claim 15, which explicitly recites "vacant regions in the shape of an upright truncated cone," is further distinguishable from that which is disclosed in the Culp document. As mentioned, Culp discloses only vacant regions having a vertical wall, so that the apertures are cylindrical in shape. The only resemblance of an upright, truncated cone found in Culp comes from the combination of top sheet panel 14 and bottom sheet panel 16 joined at some intermediate point by weld 26. See Culp, col. 4, lines 11-15; col.3 lines 65-66. However, such a combination does nothing to change the actual shape of the

vacant region, which remains as a cylinder having vertical walls. After all, the region on either side of panel 14 and panel 16 remains vacant as the shape of foam panel 22 does not change. *Culp*, figure 4. Importantly, *Culp* discloses only that "panels 14 and 16 thereby form conic structures 40 as they extend from the top and bottom surface of mattress 10 inward to join with the other panel at the weld point 26." *Culp* col. 3, lines 55-56 (emphasis added). Nevertheless, either side of the combination of panel 14 and panel 16 where joined about weld 26, remains vacant as apertures 24 continue to be cylindrical in shape each having a single vertical wall. In other words, neither the shape of foam panel 22, or apertures 24 contained therein, change by virtue of joining panels 14 and 16 at weld 26. Panels 14 and 16 join to form a double conical shape; however, the *vacant regions* on either side of panels 14 and 16 are not conical.

Claim Rejections; 35 U.S.C. 103(a)

Claims 1-2, 8, 10-11, and 24 currently stand rejected under 35 U.S.C. 103(a) as being unpatentable over *Culp* in view of U.S. Pat. No. 3,798,686 issued to Gaiser ("Gaiser"). Applicant respectfully submits that for the reasons mentioned above such a rejection cannot be appropriate. That is, Applicant cannot find a "support structure configured to reduce localized stresses produced by a body thereon" in either reference. Specifically, the suggested combination fails to disclose a support structure having tapered vacant regions. As such, the combination suggested by Examiner cannot teach every limitation of Applicant's claimed invention. Nevertheless, Applicant has amended these claims to *further* distinguish the present invention from the suggested combination.

Specifically, these claims now recite *tapered* vacant regions contained within the support structure.

Claim 2 is further distinguishable from the suggested combination. Again, Culp teaches only a vacant region having vertical walls; and as mentioned, either side of the combination of panel 14 and panel 16 where joined about weld 26, remains vacant as apertures 24 continue to be cylindrical in shape each having a single vertical wall. In other words, neither the shape of foam panel 22, or apertures 24 contained therein, change by virtue of joining panels 14 and 16 at weld 26. Panels 14 and 16 join to form a double conical shape; however, the *vacant regions* on either side of panels 14 and 16 are not conical.

The inclusion of conical shaped apertures would destroy the operation of the Culp mattress in more than one way. First and foremost, it is easily seen that fitting the weld point through the asymmetric conical aperture would be all but impossible, and would interfere with the placement of the welding points within the apertures themselves. Moreover, the use of conical shaped apertures in conjunction with said weld points would make for an awkward structure with limited stability; this instability would lead to the “pillowing” that is specifically meant to be avoided by the Culp invention.

Proper inflation the Culp mattress depends on symmetrical placement of the weld point about the foam panel apertures. If asymmetrical shaped (such as conical shape) cut outs were placed within the apertures, the weld points would not be equidistant from both the top and bottom portions of the surrounding membrane. Again, such configuration

would cause both instability within the structure and lead to “pillowing,” which is specifically meant to be avoided by the Culp invention.

Examiners remaining rejections are all based on the combination of Culp in view of another document. For the reasons mentioned above, that is, that Culp fails to teach a support structure such as that presently claimed by Applicant- the suggested combinations cannot teach every limitation of Applicant’s claimed invention.